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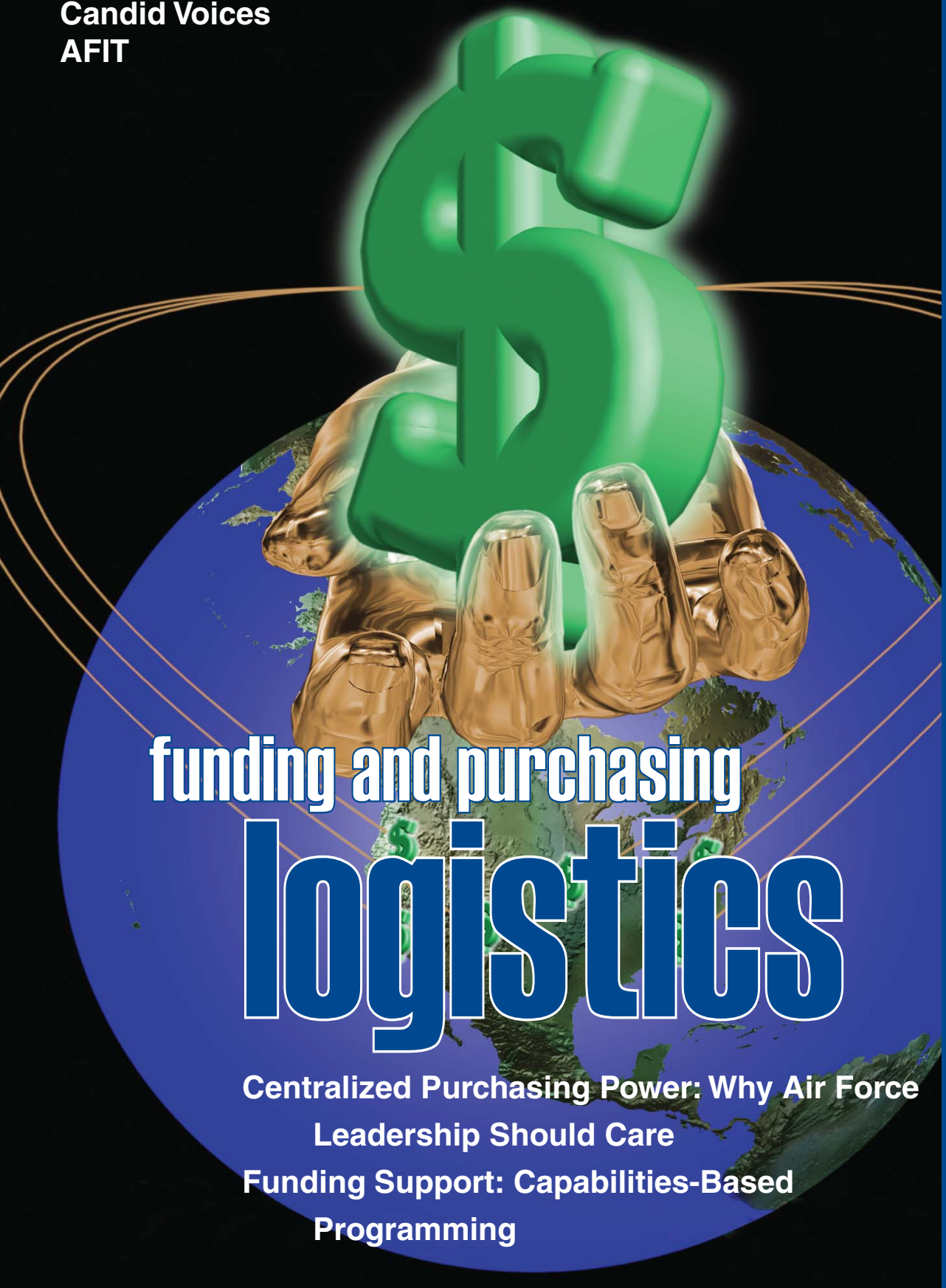

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EXPLORING THE HEART OF LOGISTICS

Air Force Logistics Management Agency

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The AFLMA

The AFLMA—Air Force Logistics Management Agency—is located at Maxwell AFB, Gunter Annex, Alabama. We're a logistics problem-solving agency. Since its inception, the Air Force Logistics Management Agency has grown to be recognized for its excellence—excellence in providing answers to the toughest logistics problems. And that's our focus today—tackling and solving the toughest logistics problems and questions facing the Air Force. It's also our focus for the future.

Lots of organizations have catchy mottoes. Likewise, many have catchy vision statements. We do, too. But there's a big difference—we deliver on what we promise. *Generating Solutions Today, Shaping Tomorrow's Logistics* aren't just words to us; they're our organizational culture. We use a broad range of functional, analytical, and scientific expertise to produce innovative solutions to problems and design new or improved concepts, methods, systems, or policies that improve peacetime readiness and build war-winning logistics capabilities.

Our key strength is our people. They're all professionals from logistics functions, operational analysis sections, and computer programming shops. Virtually all of them have advanced degrees, some of which are doctorates. But more important, virtually all of them have recent field experience. *They've been there and done that*. They have the kind of experience that lets us blend innovation and new technology with real-world common sense and moxie.

Within the Agency, we have four product divisions: Maintenance and Munitions, Supply, Contracting, and Logistics Readiness, along with the Logistics Analysis Division. The Analysis Division provides state-of-the-art and leading-edge computer support, analysis, and modeling and simulation capabilities.

Anyone can submit a proposed project, problem, or area for study to the AFLMA, but it must be channeled through the appropriate command director of logistics (LG) or the Council of Directors (CoD). Before a study or research effort can be started, it must be sponsored by a command LG or CoD member. Upon receipt, the proposed study undergoes an extensive preliminary analysis and is submitted to the AFLMA Commander for approval. If we can't accomplish the project, we'll suggest other agencies that may be better suited for the task. When a project is accepted for study, one of our project managers assembles a cross-functional team to

(Continued on page 56)

AFLMA Goals

- **Lead transformation efforts**
- **Continue to respond to the revolutionary and evolutionary changes in logistics**
- **Continue to lead in developing robust, tailored answers to the most complex Air Force problems**
- **Provide quick-turn support for critical studies and projects (less than 6 months)**
- **Support the Air Force logistics community and professional military education schools with high-quality publications**

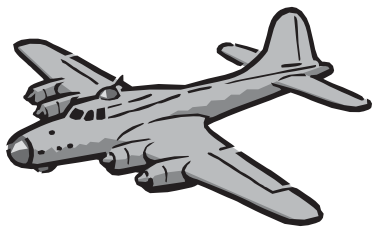
Vandenberg's plan would be rebuffed, but the rising star remained heavily involved in Air Corps planning in the Pacific, as his ideas held fast as the conceptual framework for the defense of the Philippines—a framework that would place America's newest and most capable bomber on the archipelago and, in doing so, forever change the life of a young B-17 pilot named Melvin McKenzie.

logistics history

The Early Pacific War: He Fought with What He Had

The title of this article is apropos. In a phrase, it signifies the fact that the outnumbered Americans (and their allies) did their best—at times serving downright heroically—despite fighting in a second-priority theater with *shoestring* logistics. Whether it was cannibalizing aircraft parts to put together a bomber that would make even Mary Shelley proud, using lawnmowers to service B-17s with oxygen, or just plain making multiple bombing passes on Japanese troop ships—even though the odds were dead set against them—the story of the first months of the Pacific war is one of endurance, long-suffering, and chutzpah, and all in the face of certain defeat. It is also this story that is personified in the life of McKenzie, a regular American who did nothing more than his duty. But while duty executed in the midst of pending victory is laudable, duty executed in the midst of failure is truly valorous.

he fought with what he had
The Early Pacific War



Like many American's during the 1920s and 1930s, McKenzie was excited by the prospects of flight and the sense of adventure provoked by the airplane, as one historian has argued that it was during this time that Americans were embracing a *winged gospel*.

Introduction

In the summer of 1939, an ambitious Air Corps officer named Captain Hoyt Vandenberg had just completed the Army War College at Carlisle Barracks, Pennsylvania, and reported for duty as part of the War Department's Plans Division in Washington DC. Personally called to this assignment by then Lieutenant Colonel Carl "Tooey" Spaatz, the 40-year-old Vandenberg set about to prepare one of five secret studies regarding the Air Corps' portion of the plan to defend the Philippines in the face of growing tensions with Japan. This was a task for which Vandenberg was uniquely suited, as he had written a report at the War College advocating the use of nearly 400 pursuit and bomber aircraft to defend the Philippines, as well as act as an offensive force for attacks against Japan, should war erupt in the Pacific. The plan was bold and ambitious; it called for more bombers than were located *anywhere* in the Air Corps, and it bore all the marks of contemporary airpower thought and doctrine that advocated the emerging notion of victory via airpower alone. In the end, Vandenberg's plan would be rebuffed, but the rising star remained heavily involved in Air Corps planning in the Pacific, as his ideas held fast as the conceptual framework for the defense of the Philippines—a framework that would place America's newest and most capable bomber on the archipelago and, in doing so, forever change the life of a young B-17 pilot named Melvin McKenzie.[1]

McKenzie and his unit, the 19th Bomb Group (Heavy), had been moved to Albuquerque, New Mexico, in the summer of 1941, only a few months before Vandenberg and a host of other Air Corps notables had completed the air portion of what would become the War Department's final plan for the Philippines prior to war, assigning the 19th to the northern-most island of Luzon that September. The trip across the Pacific would be unprecedented, as it marked the farthest deployment of US bombers anywhere in the world. Tragically for the Americans, though, two-thirds of the men who traveled with McKenzie that summer were either killed or captured by the Japanese over the next year, as the Centrifugal Offensive—conducted with overwhelming force—sent American and Allied troops reeling in what would later be labeled the Southwest Pacific Area. Japanese speed and mass were aided by weak American preparations and poor decisionmaking at key junctures, forcing McKenzie, the 19th Bomb Group, and the rest of the US forces into a fighting retreat that would back-pedal all the way to Australia.[2]

Young Melvin McKenzie

McKenzie was born 3 February 1916 in Monmouth, Maine, and though his surroundings were nondescript, the world he entered was in the throes of war. In Europe, the so-called *Fokker Scourge* was underway as Oswald Boelcke laid waste to Entente airplanes over the skies of France, with the war's most ghastly offensive—Verdun—getting underway the same month. In the United States, President Woodrow Wilson began running for reelection under the slogan, "He kept us out of the war," though the memory of the

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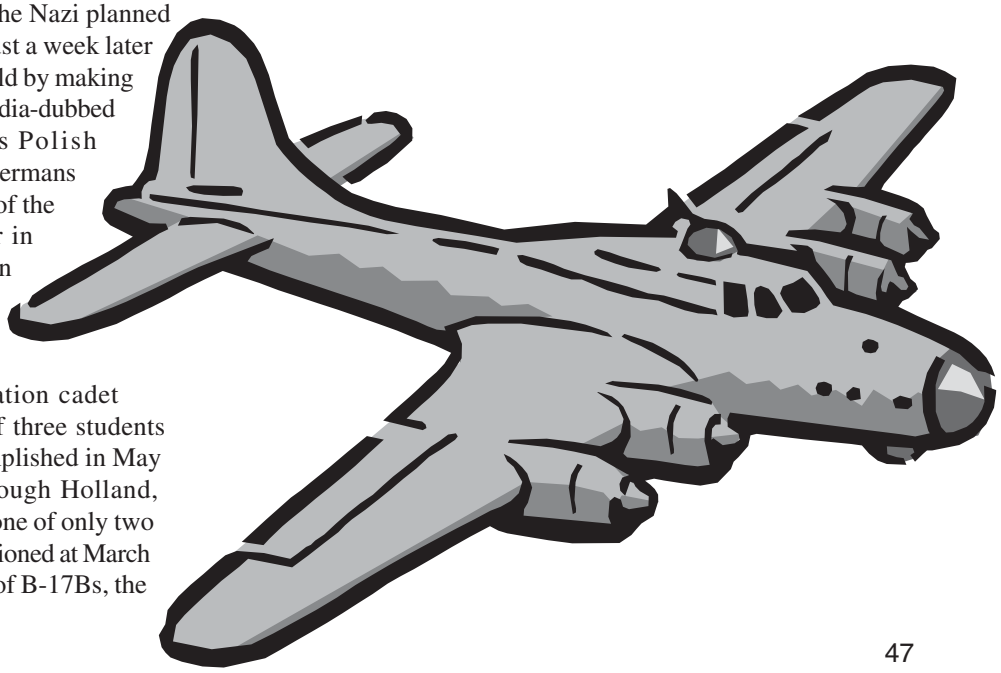
Lusitania and the threatening implications of German unrestricted submarine warfare would change all this. At the age of 5, McKenzie saw his first plane, a Curtiss *pusher* biplane, and from that time forward, he knew that he wanted to fly. It is no surprise that his earliest dreams were of flight, as he grew up *with* aviation, having Charles Lindbergh as his childhood hero.[3] Like many American's during the 1920s and 1930s, McKenzie was excited by the prospects of flight and the sense of adventure provoked by the airplane, as one historian has argued that it was during this time that Americans were embracing a *winged gospel*.[4] And while flying was McKenzie's dream, he would attribute much of his later success as an Air Corps officer to scouting, as his training while becoming an Eagle Scout served him well. Surviving in the White Mountains of New Hampshire—though radically different in climate and topography from the tropics—was not too far afield from the austerity of the southwest Pacific.

In the mid-1930s McKenzie completed studies at St Johnsbury Academy in Vermont, a college prep school. It was here that he recalls the motivating words of a chemistry teacher who spurred his students on by saying, "The world deals harshly with the weak willed, the unskilled, and the ignorant." Not wanting to fall into any of these categories, McKenzie pushed himself all the more. He then graduated from the University of Maine in 1939, earning his bachelor's degree in mechanical engineering and gaining a reserve commission in the Infantry. All this, McKenzie recalls, prepared him for the dangers of combat he would experience sooner than he thought imaginable.[5]

Late in August of the same year—just months after McKenzie's graduation from college—German Foreign Minister Joachim von Ribbentrop concluded the terms of a nonaggression pact with Joseph Stalin in Moscow that would serve to secure Hitler's eastern flank in the wake of the Nazi planned offensive into Poland, an offensive that came just a week later on 1 September. Hitler's forces shocked the world by making short work of Polish land and air forces as the media-dubbed *Blitzkrieg* rolled through the featureless Polish countryside, meeting with Soviet forces—the Germans *fair weather* ally—at Brest-Litovsk by the end of the month.[6] It was just after this start of the war in Europe that McKenzie began pilot training in Texas as the Air Corps, as well as much of the US military establishment, was beginning to make preparations for war.



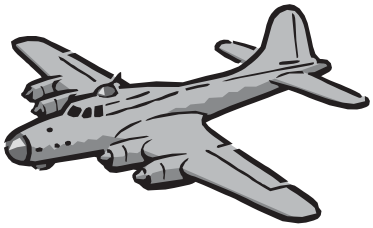
McKenzie trained under the Army's aviation cadet program, from which initially only one out of three students succeeded in graduating—something he accomplished in May 1940, just as the Germans were moving through Holland, Belgium, and France. He then was assigned to one of only two heavy bomb groups in the Air Corps, the 19th, stationed at March Field, California. The 19th had three squadrons of B-17Bs, the

first operational model of that front-line bomber, though shortly after his arrival, the squadrons began taking delivery of C models that were capable of flying higher and faster, carrying more armament and guns. And though the war in Europe was well underway, it would be in the Pacific that both America and McKenzie would find themselves first at war.[7]

Japanese Moves and American Counters

In 1823, Japanese writer Sat-o Nobuhio penned a piece titled *Kondo Hisaku*, "A Secret Strategy for Expansion," asserting jingoistically that "Japan is the foundation of the world" and that the states of the world should be made "provinces and districts of Japan." Though this work predates the Japanese rush to modernization under the Meiji Restoration by more than 4 decades, prominent Japanese scholar Saburo Ienaga perceptively points out that these ideas of military aggression that percolated in feudal Japan provided the *wellspring* for what would become the idea of the Greater East Asian Co-Prosperity Sphere a century later.

The Meiji Restoration of the 1860s sought to industrialize and militarize a country that had been an isolated island-nation for more than 2 centuries, by using the British model for its navy and the Prussian model for its army. With industrialization also came an upsurge in foreign trade, as resource-limited Japan began to look outside of itself for expansionist opportunities that would solve its own lack of natural supplies. This matter came to a head in 1929 during the Great Depression, as Japan was especially hard hit, triggering its exceedingly nationalistic army to orchestrate events leading to a 1931 incursion and annexation of Manchuria by the Japanese army in Korea. Thus began what Ienaga calls Japan's *Fifteen Year-War*.[8]



In May 1941, the Army Staff called for the movement of 21 brand-new B-17Ds to the Hawaiian Islands, a 2,400-mile trip that broke all existing records as the longest over-water flight ever conducted by land-based aircraft.

With a growing hunger for resources, a 1933 Japanese Army memo read, "The natural resources of Manchuria are far exceeded by those in North China. There are limitless deposits of iron and coal in Shansi province. If we are not careful, these resources will end up in English or American hands."[9] This drive eventually would lead the Japanese army to manufacture an incident at the Marco Polo Bridge in 1937 that gave way to a broader war into China, one which saw direct military opposition by the Chinese Communists and Soviets, as well as economic moves by the United States. Then in the summer of 1940, when Germany rolled through Western Europe, Japan took the opportunity to make advances south into Indochina (gaining rice, coal, and rubber) with the tacit approval of the Vichy French government, a move that was clearly a threat to British and Dutch colonial holdings in Southeast Asia and the Southwest Pacific. In response, the United States leveled an export embargo against Japan, which included its most critical war supply—oil. The die was cast, as the Japanese were now put in the position of either withdrawing from China or expanding their sphere of influence. They would choose the latter.[10]

The American position in the Pacific was somewhat more precarious; the United States had seized the Philippines from the Spanish in 1898, providing a significant lodgment in the event of war with Japan. But there was one major problem—the archipelago was difficult to supply considering it was 7,000 miles from the coast of California and 5,000 miles from Hawaii. This was addressed by war planners, as the United States had a series of plans in place to deal with an array of potential adversaries, and the plan to counter Japan was dubbed plan *Orange* (other plans similarly held color coded names, such as Red for Great Britain, Black for Germany, and Green for Mexico). After World War I, the Joint Army and Navy Board (the predecessor of the Joint Chiefs of Staff) reviewed all the prewar plans to ensure they were consistent with the current state of affairs in the world, and it was here that the Board realized that, in the event of war with Japan, the Philippines were in a hopeless situation. The Board determined that Japan could flow nearly 300,000 men into the Philippines within a month, spelling disaster for a combined American/Filipino force of only 17,000. And as no one was willing to table the idea that the Philippines should be abandoned by the United States, the revised plan published in 1924 was one founded on hope, as

American forces were called to hold Manila Bay as long as possible until superior US naval forces could arrive.[11]

In the late 1930s as war clouds loomed large, the Joint Board began to look at different variations of the war plans, calling them *Rainbow* plans as they dealt with a combination of adversaries. Of the Rainbow plans, it was Rainbow 5 that accounted for war with Germany and Japan, calling for the United States first to dispatch the bulk of its weight in Europe before launching a final offensive against the Japanese. This *Europe First* strategy—finally agreed upon with Great Britain at the Arcadia Conference in December 1941—was motivated primarily by the fact that, quite frankly, Germany was winning the war in Europe and, therefore, needed to be dealt with soonest. The flip side of this was the fact that Japanese aggression in the Pacific was seen as a central threat to Britain's Asian empire, a threat that posed grave consequences for American security. As Admiral Harold Stark, Chief of Naval Operations, just prior to America's entrance into the war stated, "If Britain wins decisively against Germany, we could win everywhere; but if she loses…while we may not lose everywhere, we might, possibly, not *win* anywhere."[12]

With the Philippines sitting directly astride the route for a possible Japanese invasion of Malaysia and the Dutch East Indies, Secretary of War Henry Stimson called for a bolstering of US military might on the archipelago, a strengthening that would come in three main forms. First, General Douglas MacArthur was recalled from retirement to act as the commander of all forces in the Philippines, a move that was meant to impress Japan, as the former Chief of Staff of the Army carried all the notoriety of a living legend. Second, land forces were organized into US Army Forces, Far East (USAFFE), combining American forces with the newly mobilized Philippine Army; it is noteworthy to mention that MacArthur wanted Washington to give him the men and material to build up this army, as he was not content to allow the Japanese have their way with the Philippines. Ambitiously, MacArthur argued that he could meet and defeat a Japanese invasion. The third and final move taken to strengthen the Philippines was to beef up the air forces on the island, a move that bore the fingerprints of the earlier mentioned Vandenberg, as B-17s would be deployed to the islands to serve a twofold purpose: act as a deterrent force against any Japanese moves south and put in place a force capable of launching offensive missions against Japanese shipping and bases in the Pacific.[13]

McKenzie, the Philippines, and the Coming of War

As a result of these moves to strengthen the Philippines, Lieutenant McKenzie took part in a recordbreaking flight as a crewmember on the first-ever ferry mission from California to Hickam Field, Hawaii. In May 1941, the Army Staff called for the movement of 21 brand-new B-17Ds to the Hawaiian Islands, a 2,400-mile trip that broke all existing records as the longest over-water flight ever conducted by land-based aircraft. During the mission, McKenzie served as both a navigator and a backup pilot (pilots were trained in each of the positions of the aircraft, to include bombardier, navigator, radio operator, and gunner. Subsequently, many of McKenzie's early missions with the 19th were as a navigator, after which he was awarded the Distinguished Flying Cross as the flight truly was a pioneering venture, validating the strategic mobility of the B-17. After conducting some training with the crews who were taking receipt of the bombers, McKenzie and his comrades returned home by ship.[14]

Just a week after McKenzie's return to the States, the 19th was ordered to move to Albuquerque, New Mexico, as the Air Corps staff, leery of a possible Japanese attack on the California coast, felt the bombers would be safer if moved inland. McKenzie started serving as the group's material officer (a logistician in today's parlance) as the group continued to get new B-17Ds from the Boeing factory. But if the command-directed move to New Mexico was meant to provide a safe haven for the bombers, the decisions brewing in Washington DC would thrust the group into harm's way.

As previously mentioned, the air strengthening of the Philippines was meant to have a deterrent effect on Japan. The air forces in place on the islands early in the summer of 1941 were really nothing to speak of, as they were assessed to be unable to handle "even a mildly determined and ill-equipped foe," as bomber aircraft included the B-10, a few B-18s, with several P-26 *Peashooter* pursuit planes. The newly formed Army Air Forces (AAF) plan sought to dramatically alter this, though, as on 17 July General Henry "Hap" Arnold, the AAF Commander, called for the placement of four heavy bomb groups (consisting of 272 aircraft) in the Philippines, with another 68 bombers in reserve, to be complemented with two groups of P-40s, comprised each of 130 aircraft. These numbers simply did not exist *anywhere* abroad in the Air Forces, but the figures demonstrated that the priority was in place to get the newest equipment to the Philippines as soon as it came out of the factory.[15]

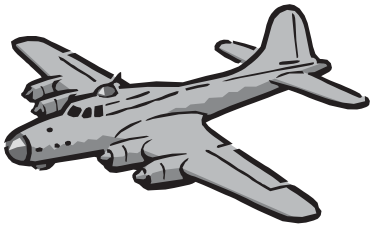
The vanguard of the heavy bomber buildup was to be the 19th Bomb Group, which was to be permanently reassigned to the Philippines beginning in early September. And while the group made preparations for its trek across the Pacific, a provisional squadron from the Hawaiian Air Force (made up of bombers delivered earlier by McKenzie and company) was selected to forge a route from Hawaii to the Philippines. The planning for the mission was accomplished under tight security, as airfields were surveyed and the nine crews who were slated for the mission made preparations for the historic flight. On 5 September, the formation took off from Hickam, stopping at Midway, Wake Island, Port Moresby, and Darwin, before arriving at Clark Field the morning of the 12th. There were tense moments along the way, as the leg from Wake to Port Moresby had the planes flying over Japanese-mandated islands. To handle the issue, the bombers flew the leg so as to arrive over the islands at night, flying blacked-out, in complete radio silence, and at 26,000 feet as opposed to the normal 8,000-foot cruise altitude. Additionally, on the leg from Darwin to Clark, the crews encountered heavy thunderstorms and were forced to fly in storm echelon at only 100 to 400 feet above the water. Regardless of the challenges, the bombers arrived safely, proving that the Philippines could be reinforced by air.[16]

With this somewhat risky air route to the Philippines secured (a new southern route would be surveyed months later to avoid the Japanese mandates), it was now time to get the bulk of the bombers, the 26 B-17s of the 19th, to the archipelago. On 16 October, the group began its mission, flying first to Hickam, as McKenzie was selected to be the navigator and relief pilot for the group commander, Lieutenant Colonel Eugene Eubank. McKenzie recounts how the colonel gave him his final checkout as a B-17 pilot just before departing for Hawaii and how the start

of the trip was not as routine as the young pilot would have liked. It seems that on the initial leg from Albuquerque to Hamilton Field (located near San Francisco) there was a gauge problem while conducting a fuel-consumption check. And because fuel-gauge accuracy was so critical for obvious reasons, Eubank had McKenzie verify the endurance capability of the bomber manually, by flying for 12 hours along the California coast to ensure the gauges were reading correctly (while Eubank grabbed his golf clubs and hopped on another bomber, promising to meet McKenzie in Hawaii!). The manual check of McKenzie's plane went fine, clearing him to make the 2,000-mile trip to Hawaii; all told, counting from when he left New Mexico to his arrival in Hawaii, McKenzie had totaled 36 flight hours in just 2 days!

From Hawaii, the 19th took the same route through Midway, Wake, Port Moresby, and Darwin, though encountering much poorer weather than the Hawaiian Air Force predecessors; engine problems were an issue as well, as 2 of the 26 bombers needed engine swaps in Darwin.[17] Despite the difficulties, the 26 bombers arrived at Clark Field on the morning of 3 November, accomplishing a Herculean aviation feat by traveling more than 10,000 miles—as an entire Bomb Group—in 17 days. Their arrival at Clark was quite unceremonious, though, as the crews parked their planes in vacant spots on the cluttered airfield, then went to get themselves settled at Clark's rugged accommodations for what they supposed would be the next 3 years.[18]

On the afternoon of the following day, Major General Lewis Brereton, the new commander of what would become the Far East Air Forces (FEAF)—MacArthur's air force—arrived in a Pan American flying boat after being delayed by poor weather along the same route taken by the 19th. Among the items, Brereton brought his new commander a secret letter from Army Chief of Staff George Marshall, updating MacArthur on his mission in the Philippines. The revised orders called for the use of "air raids against Japanese forces and installations within the tactical operating radius of available forces," news that elated MacArthur as it reflected a shift in strategy, from one that called only for the defense of the Philippines, to one where "offensive air operations in the furtherance of the strategic defense" were allowed. To prepare for this, Brereton needed to get a good picture of the air force facilities and infrastructure in his theater, so MacArthur gave him time to survey the FEAF airfields and depots in the Philippines. MacArthur also sent Brereton to Australia to establish a working relationship with the Royal Australian Air Force (RAAF), preparations that later proved important, as FEAF would be forced to retreat all the way to Australia.[19]



There had been an effort to boost the air defense capability of Luzon, but even so, the placement of antiaircraft guns was so-so, and the weak radar coverage of the island had to be augmented by ground observers.

Brereton departed for his trip *down under* 16 November in a B-17 piloted by Eubank, the 19th's commander, with McKenzie acting as both copilot and navigator. The entourage returned to Clark 26 November, and as the trip was labeled a success, MacArthur was well-pleased with Brereton's work in coordinating plans with the senior leadership of the RAAF. He asked his air commander to repeat the trip departing in the next couple of days but this time to Singapore and the Dutch East Indies. The trip, however, would never materialize as MacArthur received a secret cable from Marshall the next day informing him that the Japanese looked to be breaking off diplomatic relations and to be prepared for war. Additionally, Marshall reminded MacArthur of the fact that he was to allow the Japanese to make the first overt act—a point that would later figure prominently in the supreme commander's thinking—and that McArthur was also approved to conduct any reconnaissance he deemed necessary.[20] As a result of this message, the Philippines went on 24-hour alert.

Over the last few months, there had been an effort to boost the air defense capability of Luzon, but even so, the placement of antiaircraft guns was so-so, and the weak radar coverage of the island had to be augmented by ground observers (there was one operational radar unit, located at Iba, when the Japanese attacked). The most effective air defense was a passive measure that moved two squadrons of the B-17s to an auxiliary field just outside the Del Monte pineapple plantation on the southern island of Mindanao on 5 December.[21] Tensions continued to rise as the Japanese made high-altitude reconnaissance flights over Luzon on 4 consecutive days beginning 2 December. There was a strong sense that war was coming, as McKenzie recalls that

even "brazen Japanese nationals living in Manila openly boasted that they would soon rule the Philippines."[22]

Japanese Attack on the Philippines

Shortly after 3 AM on the morning of 8 December, a commercial radio station picked up news of the Japanese attack on Pearl Harbor (note that Hawaii and the Philippines are on opposite sides of the date line, so 3 AM at Clark on Monday was 8:30 AM on Sunday in Hawaii). [23] At about the same time, cryptographers at FEAF's communication center decoded a message from the Hawaiian department that read, "Attention all commanders. Japan has begun hostilities. Conduct yourselves accordingly."[24] McKenzie was the night shift duty officer at Clark Field, and received the message of the attack. Eubank then alerted his crews, as they were sure to be launched on bombing missions against Formosa as soon as it was daylight. Thirty minutes after the warning, the radar set at Iba Field detected a formation of airplanes about 70 miles off the west coast of the Philippines. The 3d Pursuit Squadron was dispatched to intercept the inbound *unknowns*, but the P-40s never made contact as the suspected enemy formation reversed course and headed west.[25]

Brereton was awakened just after the message came through, and after receiving a personal phone call from General Sutherland (MacArthur's chief of staff), he got dressed and reported to USAFFE Headquarters in Del Carmen at about 5 AM. The FEAF Commander wanted approval to attack targets on Formosa using the 19 bombers at Clark. While bringing the 16 bombers up from Del Monte to be fueled and armed for a second wave of attacks, Brereton was met by Sutherland who told him that MacArthur was in a conference and could not be bothered but that Brereton should go and make preparations to execute his plan, launching no attacks until he had MacArthur's approval.

Brereton returned to USAFFE Headquarters 2 hours later, hoping to see MacArthur or at least have an answer for his request to launch bombing missions.[26] Once again, MacArthur refused to see his Air Forces commander, as Sutherland informed him that, though the general was alone, he was not to be disturbed. An irritated Brereton pressed Sutherland, who consented to asking MacArthur himself of the request. Emerging from MacArthur's office, Sutherland told Brereton, "The General says no…don't make the first overt act." Brereton was outraged, as he insisted that the attack on Pearl Harbor *was* an overt act, but Sutherland would not budge. As such, a disgusted Brereton returned to Nielson Field (the location of FEAF Headquarters) to tell his junior commanders what they were—or rather were *not*—going to do.[27]

Brereton was back at FEAF Headquarters by 8 AM, as the news of his meeting completely flummoxed his staff, Eubank, and the rest of the senior leaders. How could MacArthur *not* consider the attack on Pearl Harbor an overt act? Nevertheless, the FEAF Commander opted to do anything he could, so plans were made to launch a three-ship of B-17s to conduct a photoreconnaissance mission over Formosa to determine the point of greatest Japanese strength. Brereton then called Sutherland again to see if MacArthur had changed his mind, but Sutherland called back just before 9 AM, telling him to "hold off bombing Formosa for the present."[28]

Back at Clark, there were unverified reports of inbound Japanese aircraft, prompting Major David Gibbs, the acting commander of the 19th while Eubank was at FEAF Headquarters, to order all the bombers aloft so as to not get caught on the ground. Additionally, the pursuit groups at Clark also took off, a situation that was nearly catastrophic, as there were no established procedures for the fighters and bombers to take off together, and planes were crisscrossing each other on the ground even on takeoff roll. Nevertheless, the fleet got airborne by about 9:30 AM without incident and was advised to remain close enough to base to be in radio contact with the control tower at Clark.

Back at FEAF Headquarters, Brereton made another call to Sutherland at 10 AM, but the story was still the same; this was simply unconscionable to Brereton, who had been notified that the Japanese had bombed Tarlkac and Tuguegarao, positions north of Clark, just 30 minutes prior. So incensed was the FEAF Commander that he had his chief of staff, Colonel Francis Brady, make a note of his conversation with Sutherland. Nevertheless, Brereton dispatched Eubank to return to Clark and prepare his group for a possible mission should MacArthur have an unexpected change of heart.

Much to Brereton's surprise, the change of heart did come and sooner than he imagined. MacArthur personally called Brereton at 10:14 AM (speaking to him for the first time since the news of Pearl Harbor), and now, not a quarter of an hour after he had just hung up with Sutherland, MacArthur gave Brereton permission to launch his desired attacks. The FEAF Commander was ecstatic, as he and his staff determined that there was still enough daylight to hit Formosa, fleshing out the plan by 10:45 AM. Back at Clark, planes were ordered to land so that they could load bombs, refuel, and get the crews smart on the mission. The launch time was scheduled for 2:00 PM as the group readied itself for what it had come to do in the Philippines—strike Japanese targets!

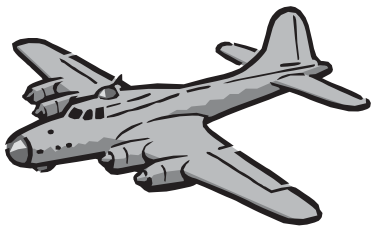
The planes were back on the ground from the earlier scramble by noon, as most officers headed to the officer's mess to get some lunch prior to the mission. McKenzie stayed back at group headquarters tracing classified sketches of Japanese airfields on southern Formosa to be used by navigators preparing to fly. McKenzie recalls hearing Manila radio report that the Japanese must have hit Clark, as there was no news coming from the base. "Idle speculation," chortled McKenzie, as he only heard the sounds of birds singing. But only moments later came a series of thunderous explosions, as 54 Japanese *Betty* bombers, flying in two separate V formations, laid strings of bombs across the airfield. McKenzie grabbed his helmet and got outside, taking cover in a slit trench, as Zeros came in low on strafing runs.[29] The bomb pattern was so well planned that much of the field was damaged, as one eyewitness said, "A person could not walk more than 30 feet in one direction without walking into a bomb crater."[30] Additionally, 17 of the 19 B-17s at Clark had sustained damage (12 of 17 damaged planes were destroyed), though less by bomb damage and more by the strafing runs. McKenzie was glad he had skipped lunch that day, as the officer's mess took a direct hit, killing 50 men.[31]

After the dust settled, the extensiveness of the damage to Clark was clearly seen, as the bombing destroyed hangars, supply buildings, the communications center, shops, and barracks. One place that was missed was the camouflaged fuel dump—a Japanese mistake that would allow Clark to remain in use, as B-17s from Del Monte would fly north to be fueled and armed for attacks against the invasion fleet (bearing an eerie resemblance to the unscathed fuel pits during the attack on Pearl Harbor). One

of the fatalities in the attack was the group materiel officer, McKenzie's immediate boss; now the young lieutenant would fill that role, supervising the fueling and maintenance of B-17s that would soon be staging from Del Monte. With much of the equipment destroyed, McKenzie was forced to improvise with fueling methods, oxygen servicing, and spare parts, ensuring that bombers returning to Del Monte were loaded with the cannibalized parts for broken airplanes down range. All in all, Clark was a disheveled shoestring operation that made the most of anything available to help slow the Japanese advance—an advance that would force the evacuation of Clark by Christmas Eve.[32]

The Retreat from Luzon to Darwin

Within days of the initial air attacks on the Philippines, the Japanese conducted amphibious landings on the northern and southern parts of Luzon. To support the ground defense, FEAF used pursuit aircraft to conduct reconnaissance and bombers—those few that remained—to try to stem the tide of Japanese shipping that was delivering men and materiel to Luzon on a near-daily basis.[33] But this effort was too little too late, as Clark was all the more hazardous to operate from as it was on the Japanese bombing route to Manila and, thus, proved a juicy strafing target for enemy fighters returning to bases in the north.[34] Nevertheless, those still at Clark did their best to defend themselves while they went about the business of salvaging parts from damaged aircraft to be transported to Del Monte. The nail in the coffin, however, came on 22 December when Japanese forces landed unopposed at the Lingayen Gulf, only 120 miles north of Manila. Two days later, on Christmas Eve, FEAF ordered the evacuation of Clark, as the 19th Bomb Group was moved by truck to the Bataan Peninsula. The remaining Americans then scuttled the base, as buildings were burned and bombs and fuel tanks exploded. In the words of the 19th's acting commander, "They closed the gate and threw away the key." The Japanese would arrive at the remains of Clark within a week.[35]



Broadly speaking, the Japanese offensive through the Philippines to the East Indies and the Malay Peninsula had been successful beyond their wildest dreams.

The unit arrived at the port town of Mariveles, as plans had been set to evacuate to Mindanao via two interisland ferryboats. Unfortunately, though, Japanese fighters had strafed and sunk one of the boats, so only half of the men were able to depart. Those who remained would either be killed in action or would surrender and be forced to suffer the Bataan Death March. Those who were evacuated did so on the *Moyan*, as the ship's captain moved only at night and hid in secluded inlets during the day. Even so, the boat was spotted and bombed by the Japanese (sustaining considerable damage) but was still was able to reach Mindanao by New Year's Day.

The group made its way to Del Monte, where there were no B-17s (they had already been evacuated to either Java or Australia) and only two damaged B-18s. Tents were set up as McKenzie used his Army Reserve Officer Training Corps training to organize the men into squads and platoons so they could establish up a meager defense of their position with available rifles and machineguns. Neither B-18 was flyable, but mechanics set out to cannibalize parts from one to get the other flying; the major obstacle, though, was the fact that the B-18s had no internal bomb-bay fuel tank for the long flight to Darwin. To overcome this, they successfully rigged 55-gallon drums in the bomb bay, plumbing them to the fuel system to make an improvised fuel tank. A crew was able to get to Darwin, and shortly afterwards, B-17s began flying sorties into Del Monte to evacuate the rest of the unit. As a part of this effort, McKenzie flew out to the Dutch East Indies 20 January.[36]

The remnants of the 19th were now set up at a Singosari Field, a Dutch base near the city of Malang on the eastern edge of Java. Brereton and his staff thought this position afforded relative safety from Japanese attack but also put his bombers within reasonable striking distance of enemy positions. It was here that McKenzie became the unit's assistant engineering officer with the responsibility of getting as many airplanes ready to fly on any given day; this was also the place where he would first get back behind the controls of a B-17 since his survey trip to Australia with Eubank and Brereton—a trip that now seemed to be bearing dividends as it had given FEAF a snapshot of what

to expect should they have to retreat, something they were now doing in spades.

McKenzie flew four missions in his first 8 days on Java, but the missions were grueling, considering the meager damage they promised to the enemy. One typical example will suffice: Singosari on Java was a good position, though it was approximately 1,500 miles from the nearest target at Davao (on Luzon). This meant that an intermediate field was necessary, with Samarinda on Borneo serving as the stopping point. So on one particular mission, bombers left Java 3 January and landed on Borneo, where they were serviced with 2,000 gallons of fuel and four 600-pound bombs. Then the planes departed the next morning to hit the ships harbored at Davao (where they reportedly sank one destroyer), then returned to Borneo, spent the night, and returned to Java the next day. In the end, it took 3 days of flying to drop less than 10 tons of bombs and also sucked dry—in a single mission—the fuel at the staging base at Samarinda.[37]

The Japanese continued to press their offensive to the south, attacking Borneo in early January, and then taking Kendari as a staging base by the middle of the month, a position that put Japanese fighters and bombers well within rage of Malang and eastern Java. On 3 February, the air raid sirens went off for the first time at Malang as *Zeroes* destroyed four American bombers—loaded and fueled—on the ground, shooting down another flying nearby. Two weeks later, McKenzie was at the airfield when a formation of B-17s was returning from a mission. No sooner had the bombers landed when a flight of ten Japanese *Zeroes* attacked the field. McKenzie was near the hangar line when the first fighter opened fire on a nearby bomber, hitting one of its crewmembers, Lieutenant. James Ferry, with an explosive shell. With complete disregard for his own safety, McKenzie and two other comrades grabbed Ferry and raced him to a nearby shelter under the constant hail of bullets. For this act of heroism, McKenzie was awarded the Silver Star. Nevertheless, the raids persisted as the Japanese 21st Flotilla continued to bear down on Java.[38]

As the Japanese attacks continued, the first B-17E arrived in theater to augment the meager force of five bombers. Among other things, the E model surpassed its predecessors in terms of firepower, as it had a ball turret; a powered top turret; and most significantly, tail guns. Eubank then pressed the plane's ferry crew into service, as they flew as part of an attack formation the following day. McKenzie recalls the E model scoring five kills on that single mission![39] Despite these limited successes, the Japanese had gained a foothold on oil-rich Borneo and, by 1 March, had landed on Java. It would not be much longer when the entire Dutch East Indies would fall, as the first echelons of the bombers at Malang began to move to Australia.

Modest Reprisals

Broadly speaking, the Japanese offensive through the Philippines to the East Indies and the Malay Peninsula had been successful beyond their wildest dreams. And it was largely because of this that they strategically altered their original plans in the spring of 1942 by extending their offensive both south and east (New Guinea and Midway, respectively), rather than establishing the previously planned defensive perimeter.[40] The biggest problem for the Japanese was what to do about Australia, as it would certainly be used as a launching point for an Allied counteroffensive. And while the seizure of the continent was impossible for the Japanese Imperial Army to support, planners thought that Australia could be knocked out of the war and that Port Moresby was the key position to this end, as it was, in the words of Richard Watson, "the last barrier guarding the northern approaches to Australia."[41] It was this strategic context that moved allied decisionmakers to plan for the defense of Australia, as airpower would be called upon first to attack the Japanese buildup at Rabaul and second at the Coral Sea.

McKenzie had caught one of the last B-17s from Java to Australia, as he flew first to Broome on the northwestern coast, then Melbourne on the opposite end of the country where he was able to enjoy some rest and recuperation.[42] From here, he met up with the 19th at Cloncurry, a dry and dusty field that was 1,000 miles north of Brisbane and 1,000 miles south of Darwin. The logical target for the bombers was Rabaul in New Britain, the location of a sizable Japanese harbor, but this could not be done so easily as these missions were reminiscent of the earlier attacks from Malang to Luzon. To hit Rabaul, planes would have to fly 600 miles to Port Moresby (itself in a vulnerable position), refuel and arm up, fly over the Owen Stanley Mountains (with peaks reaching 13,000 feet), dealing with the often difficult weather caused by such a radical jump in elevation; then attack their target, and return home via the same route. McKenzie flew a number of these missions and was decorated with a second Silver Star for heroism on 11 June as he was forced to make three passes on a target because of poor weather—a near-suicidal task under constant fire from enemy antiaircraft attack. Nevertheless, though, the difficulty of these attacks was reflected in their meager numbers: between 23 February and 1 April—a period of 36 days—a total of only six missions were flown against Rabaul, with a total of only 15 bombers, less than three planes per raid.[43]

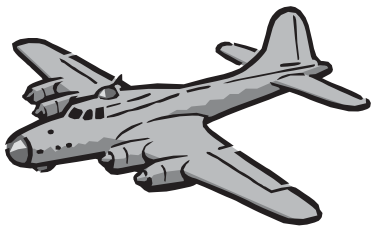
In early May, the Japanese set in motion their plan to take Port Moresby by amphibious landing by deploying two fleet carriers and one light carrier to escort the operation. Notified of the Japanese intentions by Ultra code breakers, Admiral Chester Nimitz deployed the *Yorktown* and the *Lexington* to the area, supplemented by Army airpower based in Australia and Moresby. The B-17s were used to locate the positions of the enemy ships, in addition to the hope that they could be used to vertically bomb enemy ships. And while the bombers did attack some of the enemy's convoys during the battle, high-altitude bombing against smaller moving ships was noted as a challenging task at best. Despite this, American carrier-based aviation succeeded in sinking one Japanese carrier and badly damaging another but lost the *Lexington* to enemy naval aircraft. The battle at Coral Sea was significant, as it broke a longstanding paradigm—it was the first naval battle where the opposing ships never saw each other. In terms of damage, it was nearly a one-for-one trade between the Japanese and Americans, but it was a strategic victory for the United States as it halted any future amphibious operations against Port Moresby.[44]

The 19th would continue hitting the Japanese where it could, as the situation in the Pacific began to take shape. American success at Midway—only a month after Coral Sea—halted forever any sense of Japanese momentum. And as the tide was turning slowly in the Pacific, American commanders sought to go on the offensive as a debate ensued between MacArthur, now the commander of the Southwest Pacific Area, and Nimitz, the Navy's supreme commander in the Pacific. MacArthur wanted to take

Rabaul immediately, but Nimitz disagreed, and after a week of discussion, the Joint Chiefs agreed to first seize the islands of Guadalcanal and Tulagi to protect Allied lines of communication in the area. With the attack on Guadalcanal set for 7 August preparatory measures were taken, as McKenzie and the 19th attacked Japanese bombers at Vukanau, a raid that MacArthur personally credited to Arnold as "preventing dozens of Japanese bombers from disrupting the US invasion."[45] It was shortly after Guadalcanal that the 19th Bomb Group redeployed to California, a mere shadow of the unit that had been the advance guard of American deterrence in the now conquered Philippines.

Conclusion

In 1951, novelist Walter Edmonds published the story of the earliest days of the Pacific war, an accounting he accurately titled, "They Fought with What They Had." The title is apropos. In a phrase, it signifies the fact that the outnumbered Americans (and their allies) did their best—at times serving downright heroically—despite fighting in a second-priority theater with *shoestring* logistics. Whether it was cannibalizing aircraft parts to put together a bomber that would make even Mary Shelley proud, using lawnmowers to service B-17s with oxygen, or just plain making multiple bombing passes on Japanese troop ships—even though the odds were dead set against them—the story of the first months of the Pacific war is one of endurance, long-suffering, and chutzpah, and all in the face of certain defeat. It is also this story that is personified in the life of McKenzie, a regular American who did nothing more than his duty. But while duty executed in the midst of pending victory is laudable, duty executed in the midst of failure is truly valorous.



To put it crudely, Washington's buildup of the Philippines was too little, too late. Additionally, MacArthur's hesitancy to launch his bombers is a mystery he took to his grave.

But what of the tragic surroundings McKenzie found himself starting on 8 December and running through the next summer? Who was responsible for the massive miscue at Clark that allowed the Japanese to wipe out in a single stroke what one observer called "the greatest single obstacle to their [Japanese] advance southward" by destroying the 19th Bomb Group on the ground? To probe even further, why did MacArthur delay so long in finally approving a B-17 raid on Formosa? And last, why were decisionmakers in Washington willing to begin amassing such a large airpower force—the largest of any force outside the continental United States—without also building an adequate airfield defensive network? These questions all fall outside the scope of this article, but to put it crudely, Washington's buildup of the Philippines was too little, too late. Additionally, MacArthur's hesitancy to launch his bombers is a mystery he took to his grave, though more thoughtful historians have speculated that *Dugout Doug* was a ground-oriented soldier and, as such, lacked a sense of airmindedness. It is unfortunate, as one can speculate on the *might have beens* and see that, had the FEAF bombers been launched the morning of 8 December, they most likely would have caught the bulk of the Japanese bomber force on the ground and as such seriously slowed the buildup of any Japanese momentum in the earliest days of the war in the Pacific.[46]

Notes

1. William Bartsch, December 8, 1941: *MacArthur's Pearl Harbor*, College Station: Texas A&M University Press, 2003, 16-18, 54, 61-62, 81-85, 121-125. The reader will note that this is the same Hoyt Vandenberg who would go on to be the second Chief of Staff of the Air Force, playing a vital role in the new service's formative years.
2. Melvin McKenzie, personal memoirs, February 2002, titled *One of the Lucky Ones*.
3. McKenzie recounts in his memoirs that he had the pleasure of personally dining with Lindbergh at Eglin Field, Florida, while the transatlantic legend was serving as an aviation consultant for the Army Air Forces, *One of the Lucky Ones*.
4. Joseph Corn, *The Winged Gospel: America's Romance with Aviation, 1900-1950,* New York: Oxford University Press, 1983.
5. *One of the Lucky Ones*.
6 Gerhard Weinberg, *A World at Arms: A Global History of World War II,* Cambridge University Press, 1994, 30-64.
7. *One of the Lucky Ones.*
8. Saburo Ienaga, *The Pacific War, 1931-1945*, New York: Pantheon Books, 1978, xiii, 3-12, 57-65.

9. Ienaga, 68.
10. Robert Doughty, et al, *Warfare in the Western World*, Vol 2, New York: Houghton Mifflin, 2001, 701-705.
11. It is worth noting that the Army consistently railed against the plan, stating, "To carry out the present Orange Plan…would be literally an act of madness." Nevertheless, the crux of the plan would remain the same up through 1941. See Ronald Spector, Eagle Against the Sun, New York: The Free Press, 1985, 54-57.
12. Bernhard Nalty, *Winged Shield, Winged Sword*, Vol 1, Washington DC: Air Force History and Museum Program, 1997, 194-195.
13. Nalty also notes that the United States hoped that the Soviets would allow the B-17s to fly shuttle raids between Luzon and Vladivostok, attacking Japan along the way. The Soviets never consented to this, though, as they were in the throes of a war against Germany in the summer of 1941, and the threat of a two front war with Japan was just too much.
14. The B-17D model was an improvement over the C in that it had superior range, speed, altitude, and armor, as well as self-sealing fuel tanks, One of the Lucky Ones.
15. A letter written on 1 December 1941 to the commander of the Hawaiian Air Force reveals the urgency of this matter, as Arnold wrote, "We must get every B-17 available to the Philippines as soon as possible." This was no overstatement, as by the time of Arnold's letter, more than half the heavy bombers and one-sixth of the fighters were already in the Philippines. See Kent Roberts Greenfield, United States Army in World War II: The War in the Pacific: The Fall of the Philippines, Washington DC: Center of Military History, 1993, 37-45.
16. Wesley Frank Craven and James Lea Cate, *The Army Air Forces in World War II,* Vol 1, University of Chicago Press, 1948, 178-179.
17. There was another near catastrophe during the trip, as on the leg from Wake to Port Moresby—the leg that goes south of the equator—one navigator frantically called out over that radio that he was 200 miles off course. Fortunately, his problems were solved quickly when he was told that he was using northern hemisphere charts as opposed to southern hemisphere—adjustment that quick got him "back on course," *One of the Lucky Ones*.
18. Bartsch, 171-173.
19. Bartsch, 173-176, 203.
20. Bartsch, 217-219.
21. Craven and Cate, 190-191. McKenzie also recalls that two of the group's four squadrons were moved, as four more B-17 squadrons from the 7th Bomb Group were scheduled to arrive there at Del Monte (as it affectionately became known) during the next week. Incidentally, these B-17s would never make it to the Philippines, as they were the unit that arrived in Hawaii in the midst of the Japanese attack on Pearl Harbor, One of the Lucky Ones. See also Bartsch, 409.
22. *One of the Lucky Ones.*
23. This time difference information comes from Craven and Cate, 203.
24. Bartsch, 275-6.
25. Craven and Cate, 203.
26. While Brereton was busy traveling to and from MacArthur's headquarters, his very capable staff decided that the B-17s should attack Takao harbor on Formosa, as the most damage could be leveled here against the Japanese. Additionally, target folders already were prepared for this set, so no prior reconnaissance was really necessary, Bartsch, 280-1.
27. Bartsch, 276-282. It is worth noting that there was actually an overt Japanese attack on the Philippines that morning, in between Brereton's two meetings at USAFFE Headquarters. A formation of 19 Japanese carrier-based fighters and attack aircraft struck the small airfield at Davou, destroying some of the field's infrastructure but damaging no aircraft, as none were present on the field; apparently news of this strike had not yet reached Manila, Bartsch, 279-80.
28. Bartsch, 283.
29. *One of the Lucky Ones*.
30. Benjamin F. Kimmerle, personal memoirs located at the Air Force Historical Research Agency, Montgomery, Alabama, IRIS No. 00043818.
31. *One of the Lucky* Ones; Bartsch, 409.
32. *One of the Lucky Ones*; Craven and Cate, 211-3.
33. As noted, there were only two flyable B-17s at Clark after the attack, but the 16 located at Del Monte were unscathed but needed to fly their mission through Clark to be armed and refueled.
34. One author, Walter Edmonds, cites a member of the 27th Bomb Group at Clark as having counted between 10 and 15 raids on average, counting as many as 35 on the American's last day at Clark. See *They Fought with What They Had*, New York: Little, Brown & Co., 1951, 213.
35. Edmonds, 212-6.
36. Because there was now just one boat, 109 of 210 officers and 650 of 1,300 enlisted were forced to stay behind, One of the Lucky Ones.
37. McKenzie actually was evacuated from Del Monte as a result of one of the lengthy missions, as nine B-17s took off from Malang, and encountered severe thunderstorms with three of the bombers turning back. The remaining six bombed their targets near Jolo and then landed at Del Monte. The next morning the planes departed for Malang (intending to again hit Jolo, but poor weather prevented an attack) evacuating 23 members of the 19th, Craven and Cate, 381; McKenzie, *One of the Lucky Ones*.
38. The Japanese were not the only trouble to the bomber crews: McKenzie recalls, "On one mission near Java, I was in a flight of B-17s slowly descending out of the clouds. As we broke out into the open, we were greeted with a barrage of gunfire from a Navy convoy directly below. Luckily, they missed. We rapidly climbed back into the clouds and wondered how the Navy could mistake us for the enemy because the Japanese did not have any four-engine land-based bombers!" Craven and Cate, 383. McKenzie, *One of the Lucky Ones*.
39. The presence of the E models forced the Japanese to change their tactics to attack the bombers head-on, an effective counter as the B-17E's top turret was not effective from this aspect, and the .30 caliber machineguns in the nose lacked sufficient range to deal with the type of attack. This was deadly but valuable experience for the Americans, as it would lead to the boosting of nose-gun power in the subsequent G models Craven and Cate, 388-90. McKenzie, *One of the Lucky Ones*.
40. John B. Lundstrom, *The First South Pacific Campaign: Pacific Fleet Strategy December 1941-June 1942,* Annapolis: Naval Institute Press,1976, 40-2.
41. Craven and Cate, 408.
42. As an interesting sidenote, McKenzie recalls in his memoirs, "Meanwhile, people were still being flown out of Del Monte Field on Mindanao. In mid-March, Harl Pease, another of my flight school classmates, was ordered to fly General MacArthur and his family out of Del Monte after their escape from Corregidor by PT boat. When MacArthur's staff saw the sad condition of Harl's B-17, they asked for another plane and an older pilot! This suited Harl because it gave him a chance to fly out more of our gang still at Del Monte. Those who didn't make it out joined a guerrilla army and continued the fight against the Japanese. Harl was later shot down in an August 1942 raid near Rabaul, New Britain. For heroism in completing his bomb run despite heavy damage to his B-17, he was awarded the Congressional Medal of Honor. After the war, we learned that Harl had been executed after his capture by the Japanese, who made him dig his own grave. Pease AFB, New Hampshire, was named in his honor."
43. *One of the Lucky Ones*; Craven and Cate, 416-7. On a happier note, McKenzie recalls on one Rabaul mission that his ball-turret gunner reported he was hit but okay. Upon returning to Port Moresby, the gunner got out of the plane, opened his jacket, with the bullet falling to the ground! It apparently had spent its energy getting through the turret and his coat and left him with only a minor burn.
44. Doughty, 710-11; Craven and Cate, 447-50.
45. Doughty, 713-4; One of the Lucky Ones.
46. William Bartsch has done us a great service in analyzing one of the great unanswered questions of World War II: who was responsible for the failures at Clark on the 8th? His work covers the events of the day from both the US and Japanese perspective and is a solid piece of historical detective work. See pages 409-24 for a detailed summation of his argument.

Lieutenant Colonel Plating is a graduate student at The Ohio State University, working on his PhD in military history. At the time of writing, he was a student at the Air Command and Staff College. JL★

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